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Stated Meeting, January 20.

Present, thirty-five members.

Mr. DU PONCEAU, President, in the Chair.

Letters were read:—

From the Société de Géographie, dated Paris, 25th Aug. 1842,—the Lyceum of Natural History of New York, dated 10th Jan. 1843,—the Boston Society of Natural History, dated 1st September, 1842,—and the Royal Institution of London, dated 6th Oct. 1842,—severally acknowledging the receipt of donations from the Society.

The following donations were announced:—

FOR THE LIBRARY.

Flora Batava; ou Figures et Descriptions de Plantes Belgiques, par J. Kops et F. A. W. Miguel, Livrn. No. 125. 4to. Amsterdam.—*From H. M. the King of the Netherlands.*

Ancient Laws and Institutions of Wales, printed by command of His late Majesty William IV., under the direction of the Commissioners on the Public Records of the Kingdom. Folio. London, 1841.—*From the Commissioners on the Public Records.*

Osservazioni sullo Stato della Zoologia in Europa, &c. &c., da Carlo Luciano Bonaparte, Principe di Canino e Musignano. 8vo. Florence, 1842.—*From the Prince of Canino.*

Annales des Mines, 4me Sér. Tome I. 8vo. Paris, 1842.—*From the Engineers of Mines.*

Proceedings of the Geological Society of London. Vol. III. Part II. Nos. 87, 88. 8vo. 1842.—*From the Society.*

Bulletin de la Société de Géographie de Paris. 2me. Sér. Tome XVII. 8vo. Paris, 1842.—*From the Society.*

Journal Asiatique, ou Recueil de Mémoires, &c. &c. 3me. Sér. Tome XIII. No. 75. Tome XIV. Nos. 76, 77. 8vo. Paris, 1842.—*From the Asiatic Society of Paris.*

The Boston Journal of Natural History. Vol. IV. No. 2. Boston, 1842.—*From the Society of Natural History, Boston.*

The American Journal of Science and the Arts. By Professor Silliman and B. Silliman, Jr. Vol. XLIV. No. 1. 8vo. January, 1843.—*From the Editors.*

Exercices Pratiques d'Analyse, de Syntaxe, et de Lexigraphie Chinoise. Par Stanislas Julien, Professeur au Collège Royal, &c. 8vo. Paris, 1842.—*From the Author.*

Statement of Deaths, with the Diseases and Ages, in Philadelphia, during the year 1841. Published by the Board of Health.—*From Mr. Samuel P. Marks.*

Professor Bache announced the death of the Hon. Samuel L. Southard, a member of the Society, on the 26th June, 1842, aged 56.

Professor Bache described a dew-point hygrometer, the principle of which he believed had not been before applied to that instrument. A surface, of which the different points are at different temperatures, some above, and others below the dew-point, is exposed to the deposition of moisture; and the dew-point is indicated on this, by the temperature of that point at which the deposit ceases.

Several forms of the instrument were noticed. One for the purposes of an observatory, consists of a steel bar, one extremity of which fits into a tube passing through a metallic or a wooden box. The bar is pierced at regular intervals from the box with small cylindrical holes, passing vertically downwards from the upper surface of the bar to points below its axis, and intended to receive the bulb of a delicate thermometer. The temperature of the end of the bar within the box being reduced by cold water, ice, or a freezing mixture, the heat is gradually drawn from the part without. When equilibrium is attained, and the deposit of dew reaches a fixed position, the temperature of the bar at the dew line is ascertained, either directly by the thermometer, if the dew line corresponds with the axis of a cylindrical hole, or else by observing the temperatures of the holes on each side, and thus obtaining the temperature of the dew line, by a proportion. The intervals not being great, the curve, whose ordinates would represent the temperatures, the abscissæ being the distances from the extremity of the bar, may be taken as a straight line. Or, if more minute accuracy is sought, the bar may be pushed into the box until the section of deposition reaches the axis of a cylindrical hole. A copper bar, with gilded surface, may be used with advantage in certain cases, but does not present so beautifully defined a line of dew as the steel bar. Professor Bache spoke of the import-

ance of being able to observe a phenomenon of equilibrium instead of one of motion in taking the dew-point.

Another form of the hygrometer adapted to an observatory, or to occasional observations, consists of a trough, containing mercury, one face of which is of steel, or of gilded copper; the end being connected, as before, with a box for containing the materials, to reduce the temperature of the mercury in the trough. A deposit of dew having appeared on the surface of the trough, and having become stationary, so as to indicate that equilibrium is attained, a thermometer plunged in the mercury is brought opposite to this point, and indicates the temperature of the surface.

A very portable instrument of the same kind acting very rapidly, and if deemed advisable by the motion of heat, consists of a cylinder of small diameter, of copper, having a strip of gilding upon one side, and containing mercury. A thermometer, fitting loosely into this cylinder, has a slip of metal projecting downwards from the scale, which terminating opposite to the centre of the bulb, shows the position of the bulb when this latter is immersed in the cylinder. The temperature of the lower end of the cylinder being reduced below the dew-point, a deposit takes place upon the surface; and by following it as it advances, with the end of the projection from the thermometer scale, which gives the position of the bulb, the dew-point is readily ascertained.

Professor Bache gave further details in relation to these instruments, and compared their qualities with those of other dew-point hygrometers, and especially with the instrument of Professor Daniell. He stated, that at a future meeting he hoped to show to the Society the different forms of the instrument in action.

Mr. George Ord was elected Librarian of the Society for the current year.

The following standing Committees were appointed for the current year:—

Of Finance.—Messrs. C. C. Biddle, Patterson, Kuhn.

Of Publication.—Messrs. Lea, Hays, Fisher.

On the Hall.—Messrs. Campbell, Richards, G. W. Smith.

On the Library.—Messrs. Hays, Campbell, Penington.

The Committee on the trust funds reported upon the subject of the claims of the City Councils, which had been referred to them on the 19th August last, and presented certain resolutions in relation thereto, which were laid on the table.

The Society proceeded to an election for members, when the following persons were duly elected:—

HIS IMPERIAL AND ROYAL HIGHNESS, LEOPOLD THE SECOND, Grand Duke of Tuscany.

LOUIS AGASSIZ, of Neufchatel.

WILLIAM W. GERHARD, M.D., of Philadelphia.

LIEUT. COL. REID, Governor of Bermuda.

THOMAS P. COPE, of Philadelphia.

JOHN LENTHALL, of Philadelphia.

SOLomon W. ROBERTS, of Philadelphia.

ELLWOOD MORRIS, of Philadelphia.

CHARLES ELETT, of Philadelphia.

CHARLES B. TREGO, of Philadelphia.

THE CAVALIERE MUSTOXIDI, of Corfu.

Stated Meeting, February 3.

Present, thirty-one members.

Dr. PATTERSON, Vice-President, in the Chair.

Messrs. Roberts and Lenthall, members elect, were presented to the presiding officer, and took their seats.

Letters were read:—

From Mr. Thomas P. Cope, Mr. John Lenthall, Dr. W. W. Gerhard, Mr. Ellwood Morris, Mr. Charles B. Trego and Mr. Solomon W. Roberts, severally acknowledging the honour of their election as members:—

From the Corporation of the University in Cambridge, Massachusetts, dated 13th Jan. 1843, acknowledging the receipt of donations from the Society:—

From the National Institute of Washington, being a circular from the medical department thereof:—

From Mr. C. A. Lesueur, dated Havre, 20th Oct. 1842, presenting certain fossils:—

From T. I. Wharton, Esq., attorney of Mr. J. Brown Parker, dated 21st Jan. 1843, announcing his purpose to institute